Amendments to the Claims

This listing of claims will replace all prior listings of claims in the application.

Listing of Claims

CLAIMS 1-8 - CANCELLED.

9. (Currently Amended) The metallic heat transfer tube according to one of the Claims 24, 26 or 27, ~~2, 3, or 4,~~ wherein the re-entrant secondary grooves have a height that is in a range that is greater than 0 and ~~that is at a maximum~~ up to a maximum of 20% of the fin height H.

10. (Currently Amended) The metallic heat transfer tube according to one of the Claims 24, 26 or 27, ~~2, 3 or 4,~~ wherein the fins have a uniform height H.

11. (Currently Amended) The metallic heat transfer tube according to one of the Claims 24, 26 or 27, ~~2, 3 or 4,~~ wherein tips of the fin are notched.

CLAIM 12 - CANCELLED.

13. (Currently Amended) The metallic heat transfer tube according to one of the Claims 24, 26 or 27, ~~2, 3 or 4,~~ wherein the tube has at least one of plain ends and plain center lands.

14. (Currently Amended) The metallic heat transfer tube according to one of the Claims 24, 26 or 27, ~~2, 3 or 4,~~ wherein the tube is designed as a seamless tube.

15. (Currently Amended) The metallic heat transfer tube according to one of the Claims 24, 26 or 27, ~~2, 3 or 4,~~ wherein the tube is designed as a tube welded with a longitudinal seam.

CLAIMS 16-23 - CANCELLED.

24. (Currently Amended) A metallic heat transfer tube, comprising:

integral completely formed fins formed on an outside of a tube wall, a primary groove being defined between mutually adjacent completely formed fins, a root of the completely formed fins projecting generally radially outwardly from the tube wall at a base of the primary groove, ~~the tip of~~ each of the completely formed fins having a T-shaped cross section so that the primary groove will be radially closed off by mutually adjacent fins, ~~T-shaped tips, the region between the mutually adjacent T-shaped tips defining~~but for radially open pores opening into the primary groove;

a re-entrant groove having opposing sidewalls and a bottom wall formed between the roots of the mutually adjacent completely formed fins and in the base of the primary groove, the re-entrant groove extending coextensively with the primary groove, the re-entrant groove being formed by a pair of projections extending continuously with the primary groove and projecting toward one another from a respective root of the mutually adjacent fins and terminating a first measured distance from one another so as to define a gap therebetween and so that a second measured distance at a widest spacing between the sidewalls of the re-entrant groove measured along a theoretical line spaced from and parallel to a further theoretical line containing the first measured distance is greater than the first measured distance, a relationship between the first and second measured distances being continuously maintained throughout the length of the primary groove;

wherein the fins and the primary grooves extend helically; and

wherein the cross section of the re-entrant secondary grooves is varied at regular intervals.

25. (Currently Amended) The metallic heat transfer tube according to one of the Claims 24 and 26, ~~2 and 3,~~ wherein each of the T-shaped tips have a flat unobstructed radially outwardly facing surface area between circumferentially extending edges thereof.

26. (New) A metallic heat transfer tube, comprising:

integral completely formed fins formed on an outside of a tube wall, a primary groove being defined between mutually adjacent completely formed fins, a root of the completely formed fins projecting generally radially outwardly from the tube wall at a base of the primary groove, each of the completely formed fins having a T-shaped cross section so that the primary groove will be radially closed off by mutually adjacent fins, but for radially open pores opening into the primary groove;

a re-entrant groove having opposing sidewalls and a bottom wall formed between the roots of the mutually adjacent completely formed fins and in the base of the primary groove, the re-entrant groove extending coextensively with the primary groove, the re-entrant groove being formed by a pair of projections extending continuously with the primary groove and projecting toward one another from a respective root of the mutually adjacent fins and terminating a first measured distance from one another so as to define a gap therebetween and so that a second measured distance at a widest spacing between the sidewalls of the re-entrant groove measured along a theoretical line spaced from and parallel to a further theoretical line containing the first measured distance is greater than the first measured distance, a relationship between the first and second measured distances being continuously maintained throughout the length of the primary groove;

wherein the fins and the primary grooves extend annularly; and

wherein the cross section of the re-entrant secondary grooves is varied at regular intervals.

27. (New) A metallic heat transfer tube, comprising:

integral completely formed fins formed on an outside of a tube wall, a primary groove being defined between mutually adjacent completely formed fins, a root of the completely formed fins projecting generally radially outwardly from the tube wall at a base of the primary groove, each of the completely formed fins having a T-shaped cross section so that the primary groove will be radially closed off by mutually adjacent fins, but for radially open pores opening into the primary groove;

a re-entrant groove having opposing sidewalls and a bottom wall formed between the roots of the mutually adjacent completely formed fins and in the base of the primary groove, the re-entrant groove extending coextensively with the primary groove, the re-entrant groove being formed by a pair of projections extending continuously with the primary groove and projecting toward one another from a respective root of the mutually adjacent fins and terminating a first measured distance from one another so as to define a gap therebetween and so that a second measured distance at a widest spacing between the sidewalls of the re-entrant groove measured along a theoretical line spaced from and parallel to a further theoretical line containing the first measured distance is greater than the first measured distance, a relationship between the first and second measured distances being continuously maintained throughout the length of the primary groove;

wherein the fins and the primary grooves extend in an axial direction of the metallic heat transfer tube; and

wherein the cross section of the re-entrant secondary grooves is varied at regular intervals.